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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,901	03/25/2004	Ulrich Sielemann	P/4319-30	8957

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EXAMINER

GUADALUPE YARITZA

ART UNIT PAPER NUMBER

2859

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/808,901	Applicant(s) SIELEMANN; ULRICH	
	Examiner Yaritza Guadalupe McCall	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 7-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to Request for Reconsideration filed August 28, 2006

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 3 and 12 - 13 are finally rejected under 35 U.S.C. 102 (b) as being anticipated by Wolf (US 4,471,304).

With respect to claim 1, Wolf discloses a position-measuring device for a fluidic cylinder-and-piston arrangement (10), comprising at least one Hall sensor array including at least two Hall sensors (32, 34, 40) spaced one from the other in a direction of movement of a piston (14) of the cylinder-and-piston arrangement, and one coil (116, 118, 120, 122) to which a current can be applied and whose magnetic field permits switching points of the Hall sensors to

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be adjusted in response to the coil current (See Column 9, lines 14 – 28); and a magnetic region (28", 30") arrangeable in the piston.

In regards to claim 2, Wolf also discloses said Hall sensor array including a plurality of equally spaced Hall sensors or Hall- effect switches (See Column 5, lines 30 – 35 and 42 – 50).

Regarding claim 3, Wolf discloses a device further comprising a substrate (24), said Hall effect sensors being arranged on the substrate.

Regarding claim 12, Wolf also teaches a piston-measuring device wherein the Hall sensor array is arrangeable in a region of a cylinder wall (24) of the cylinder-and- piston arrangement (See Figure 1).

With respect to claim 13, Wolf also discloses a piston-measuring device wherein the Hall sensor array is arrangeable in the cylinder wall.

3. Claims 1 – 3, 6 and 12 – 13 are finally rejected under 35 U.S.C. 102(e) as being anticipated by Burreson (US 6,690,159).

With respect to claim 1, Burreson discloses a position-measuring device for a fluidic cylinder-and-piston arrangement (See Figures 6, 7 and 13), comprising at lease one Hall sensor

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array including at least two Hall sensors (31) spaced one from the other in a direction of movement of a piston (82) of the cylinder-and-piston arrangement, and one coil (36, 38, 40) to which a current can be applied and whose magnetic field permits switching points of the Hall sensors to be adjusted in response to the coil current (See Column 6); and a magnetic region arrangeable in the piston (See Column 10, lines 61 – 62).

In regards to claim 2, Burreson also discloses said Hall sensor array including a plurality of equally spaced Hall sensors or Hall- effect switches (See Figures 6 and 7).

Regarding claim 3, Burreson discloses a device further comprising a substrate (14), said Hall effect switches being arranged on the substrate.

With regards to claim 6, Burreson teaches a device further comprising a microcontroller (16) and a multiplexer (42), the multiplexer being operatively arranged to select the Hall sensors and feed their control states to the microcontroller.

Regarding claim 12, Burreson also teaches a piston-measuring device wherein the Hall sensor array is arrangeable in a region of a cylinder wall (24) of the cylinder-and- piston arrangement (See Figure 13).

With respect to claim 13, Burreson also discloses a piston-measuring device wherein the Hall sensor array is arrangeable in the cylinder wall.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf (US 4,471,304) in view of Burreson et al. (US 6,690,159).

Wolf discloses a position-measuring device as stated in paragraph 2 above.

Wolf does not disclose the multiplexer as stated in claim 6.

With respect to claim 6 : Wolf discloses a device having a Hall effect sensor array (32, 34) connected to a microcontroller (See Figure 3) but fails to disclose the use of a multiplexer. Burreson et al. discloses a system comprising a Hall sensor array (See Figure 6) including a plurality of Hall effect sensors (31) connected to a plurality of multiplexers (42) in order to consecutively monitor and identify the particular sensor measuring at the time of reading. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a multiplexer as taught by Burreson et al. to the device disclosed by

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Wolf in order to increase the accuracy of the process by consecutively monitoring and identify the particular sensor measuring at the time readings are taken.

Allowable Subject Matter

6. Claims 4 – 5 and 7 – 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed August 28, 2006 have been fully considered but they are not persuasive.

Applicant arguments regarding the Wolf reference not teaching two Hall sensors that are spaced from one another in a direction of movement of a piston are not persuasive. As mentioned in the rejection above, Wolf shows two Hall sensors (32, 34) spaced from one another by a distance equal to the thickness of the piston rod. The claimed subject matters fails to specify the separation being in terms of elevation as argued by Applicant. Therefore, in the broadest, yet reasonable interpretation of the claimed subject matter, the spacing between the sensors is interpreted to be in the axial direction of the rod, since the dimension of this axis defines a spacing between the sensors.

Applicant contends that the Burreson reference fails to disclose a coil as claimed. Applicant recites column 6, lines 33 – 35 of Burreson to support its position. However, the section recited by applicant clearly suggests components 36, 38 and 40 to be a contact, which as shown in figure 7 delineates a loop shape, which could be considered a “coil” as claimed. In addition, a “coil” is defined by the Webster’s Collegiate Dictionary 10th Edition as “a single loop or a series of loops to create a magnetic field”. In this case, the single loop shown by Burreson is clearly a single loop used as a contact that creates a magnetic field, therefore, meeting the requirements of the claimed subject matter.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

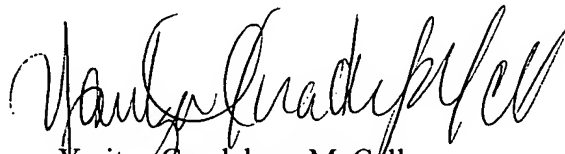
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YGM
November 13, 2006
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Yaritza Guadalupe-McCall
Primary Examiner